

REMARKS

Claims 1-19 currently are pending. The examiner withdrew claims 11-18 from consideration after a restriction requirement was imposed.

Applicants' response of August 14, 2003 was found to be persuasive with respect to the rejection under 35 USC § 112, second paragraph. The examiner has maintained the rejections under 35 USC § 103.

35 USC § 103

Claims 1-10 and 19 are rejected under 35 USC § 103(a) as being unpatentable over Akamatsu et al. (US 5,780,056), in view of Khachik (US 5,382,714), Ausick et al. (5,648,564) and Horn et al. (US 4,522,743).

The examiner stated that the examiner's conclusion of obviousness is not based upon improper hindsight reasoning because it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure. The examiner believes the cited references teach the usefulness of various carotenoids as food or pharmaceutical ingredients, teach a method of making fine particles of carotenoids, and teach multiple core structures for carotenoids. The examiner believes it is therefore obvious to make a multiple core structure containing various carotenoids by incorporating various fine particles of carotenoids into the multiple core structure.

Applicants disagree. It is true that one need not find some teaching, suggestion

or motivation to combine the references only explicitly in the references themselves.

There are three possible sources for a motivation to combine the references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. “ *In re Rouffet*, 149 F.2d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998).

In setting forth the motivation to combine the examiner presumably relies on the knowledge of persons of ordinary skill in the art in stating: “Particularly, the cited references teach the usefulness of various carotenoids as food or pharmaceutical ingredient, teach a method of making fine particles of carotenoids, and teach multiple cores structure for carotenoids. It is therefore obvious to make a multiple core structure containing various carotenoids by incorporating various final particles of carotenoids into the multiple core structure.” (Office action, 10/28/03, page 3, first paragraph).

Applicants in response point out that the multiple core structures shown in the prior art contains only **one** active ingredient. The present invention however, claims multiple core structure with more than one active ingredient with at least two cores of a multicore structure having a different chemical composition. The examiner dismisses this as an unexpected benefit. However, applicants point to this novel feature of the present invention to show that one would not have been motivated to pick and choose elements from the examiner’s cited reference to arrive at the present claims. The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as whole would have

suggested to those of ordinary skill in the art.” *In re Kotzab*, 217, F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). At the time the present invention was made, multicore structures of different chemical compositions which avoided unwanted interactions were not made. This is also why the examiner citing *In re Kerkhoven* to say that “the claimed invention which is a combination of two known nutritional ingredients sets forth prima facie obvious subject matter” is not determinative.

One of the basic requirements of a *prima facie* case of obviousness is there must a reasonable expectation of success. MPEP 2143. The examiner has not set forth why there would be a reasonable expectation of success if only the knowledge of one of ordinary skill in the art at the time of the presently claimed invention is taken into account. Applicants believe there would not be reasonable expectation of success if only based on the knowledge of one of ordinary skill in the art at the time of the presently claimed invention because unwanted interaction between the active ingredients would occur. Encapsulation of the individual active compounds also allows for more flexible organization of the production of user-friendly formulations of active-compound containing mixtures.


Lastly, Khachik et al. and Ausich et al. are only directed to processes for isolation and purification of xanthophyll crystals from natural sources. Neither reference discloses any kind of formulation of xanthophylls, in particular a solid preparation of at least two active compounds suitable for the food sector and animal feed sector or for pharmaceutical and cosmetic applications in the form of a multicore structure in which

at least two cores of a multicore structure have a different chemical composition.

For the reasons expressed above, it is urged that the prior art references cited by the examiner either singly or in combination fail to anticipate or suggest the present invention as defined by the amended claims. Accordingly, a *prima facie* case of obviousness has not been established by the examiner, and the rejection under 35 USC § 103 should be withdrawn.

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Respectfully submitted,
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